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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/730,594	12/08/2003	Sang-Dong Lee	5000-1-489	2118

33942 7590 04/04/2007
CHA & REITER, LLC
210 ROUTE 4 EAST STE 103
PARAMUS, NJ 07652

EXAMINER

SUGARMAN, SCOTT J

ART UNIT	PAPER NUMBER
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2873

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	04/04/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/730,594

Applicant(s)

LEE ET AL.

Examiner

Scott J. Sugarman

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 December 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 3,5,7 and 13-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 3,5,7 and 13-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 December 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3, 7, 13-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yasuhiro (JP 2002-258008) in view of Fujimaki (US 2003/0118271). Yasuhiro (Figs. 5, 3b, 10) teaches an optical coupling lens system having a first lens having a first rear surface (100), a first flat bonding surface (102), a first curved surface (101), a first groove (not labeled) adjacent the first curved surface (101); and a second lens having a second rear surface (200), a second flat bonding surface (202), a second groove (not labeled) adjacent the second curved surface (101), where the first and second lenses are bonded together with the first and second curved surfaces (101,102) facing each other, the first and second curved surfaces are each disposed on a surface opposite to the respective rear surface, each projected from a bottom surface of the respective groove, and each having an apex. Each flat bonding surface is disposed on the surface opposite to respective rear surface and configured to surround the respective groove, and where the flat bonding surfaces are bonded with each other using an adhesive material. Yasuhiro does not specifically teach that the flat bonding surfaces are totally flat. However, since the bonding surfaces are flat with respect to the portions that they

attach to, they are considered to be totally flat with respect to each other. Yasuhiro does not specifically teach that the first and second lenses can be made from a semiconductor material such as Si, InP or GaAs. Fujimaki teaches (para. [0067]) that an optical coupler can be made from GaAs, InP or Si. Therefore, it would have been obvious to one of ordinary skill in the art to make the optical coupler of Yasuhiro from GaAs, InP or Si, since as taught by Fujimaki, it is well known to make optical couplers from those materials. As shown in Fig. 10, for example, the first and second lenses are configured to cause an inputted divergent beam to be outputted as a converging beam and the first and second curved surfaces bulge inwardly towards each other. As shown in Fig. 10, the first and second curved surfaces have substantially identical curvatures and their apexes are separated from the respective rear surface at a substantially equal distance. NOTE: Claim 20 should be corrected for grammar.

Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Yasuhiro (JP 2002-258008) in view of Fujimaki (US 2003/0118271) when further considered with Jain (US 6,328,482). Yasuhiro (JP 2002-258008) and Fujimaki (US 2003/0118271) are applied for reasons set forth above against claim 3, but Yasuhiro or Fujimaki do not specifically teach that an antireflection coating can be used on surfaces of an optical coupler. Jain teaches (col. 6, lines 6-14) that it is well known to use an antireflection coating on surfaces of an optical coupler. Therefore, it would have been obvious to one of ordinary skill in the art to use an antireflection coating on surfaces of the optical

coupler of Yasuhiro, since Jain teaches that it is well known to use antireflection coatings on optical coupler surfaces.

Response to Arguments

Applicant's arguments with respect to claims 3, 5, 7, 13-22 are have been considered but are moot in view of the new ground(s) of rejection. Applicant argues that each of the bonding surfaces are not totally flat, but does not point out any advantages in the specification as originally filed. As the Examiner pointed out in the rejection (above), the bonding surfaces are totally flat where they adjoin to each corresponding bonding surface. In fact, since the bonding surface is totally outside the active optical area of the coupler, it is not seen how this would affect the optics of the coupler. The bonding surface arrangement of Yasuhiro is considered to have an equivalent affect to the bonding surface shown in Fig. 3 of the application. Any differences have not been pointed out in the original specification as originally filed. Since claim 6 (coupler made from semiconductor material) has been incorporated into claim 3, the issue of the coupler being made from a semiconductor material has been previously addressed in the previous office action (Fujimaki) and not argued separately in the response of December 26, 2006.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

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§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).


A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Scott J. Sugarman whose telephone number is (571)272-2340.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ricky L. Mack can be reached on (571)272-2333. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Scott J. Sugarman
Primary Examiner
Art Unit 2873

sjs
March 29, 2007